



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,381	11/12/2003	Moris Dovek	HT02-016	6373

28112 7590 04/12/2010
SAILE ACKERMAN LLC
28 DAVIS AVENUE
POUGHKEEPSIE, NY 12603

EXAMINER

DRAVININKAS, ADAM B

ART UNIT	PAPER NUMBER
----------	--------------

2627

MAIL DATE	DELIVERY MODE
-----------	---------------

04/12/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/706,381	Applicant(s) DOVEK ET AL.	
	Examiner ADAM B. DRAVININKAS	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 6,791,793 B1) in view of Takano et al. (US 2002/0080521 A1).

Re. claim 4: Chen discloses:

a magnetic write head, having an air bearing surface (ABS), comprising:

directly on a substrate, a first layer (96) of high magnetic permeability material, having, on a first side, an edge whose surface is normal to said substrate and parallel to said ABS, that serves as a primary lower magnetic pole; (see fig. 7; col. 6 lines 6-23)

a first non-magnetic layer (98) that contacts said first layer of high magnetic permeability material only at said edge and extends away therefrom, said non-magnetic layer having a top surface that is coplanar with that of said primary lower magnetic pole; (see fig. 7; col. 6 lines 6-23, col. 8 lines 9-16)

a second layer (108) of high magnetic permeability material that serves as a secondary lower pole that fully covers and contacts said primary lower

Art Unit: 2627

magnetic pole and said first non-magnetic layer, above which it serves as a ledge having a width; (see fig. 7; col. 8 lines 7-16)

a field coil (94) over, and insulated from, said primary and secondary lower poles; (see fig. 7; col. 5 lines 58-67)

an upper magnetic pole (90 and 92 combined) that overlies said field coil, contacting said secondary lower pole (108) at a second side that is opposite to said first side, and that is separated from said ledge at said first side by at least a second layer (95 and 99 combined) of non-magnetic material that is a write gap, said upper magnetic pole having, at the write gap, a width equal to said ledge width, whereby it defines a track width; (see figs. 7, 8; col. 5 lines 50-57, col. 6 lines 1-5)

said ledge extending away from said primary lower pole by an amount; and (see fig. 7)

said secondary lower pole having a thickness that remains unchanged over said secondary lower pole's entire length. (see thickness of 108) (see fig. 7)

Chen fails to disclose or fairly suggest:

the substrate is a non-magnetic substrate.

Takano discloses:

a magnetic writing head having a substrate (5) made of alumina titanium carbide. (see fig. 5; para. 0064)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the substrate of Chen out of alumina titanium

Art Unit: 2627

carbide as taught by Takano. One of ordinary skill in the art would have been motivated to do this in order to increase the wear resistance of the substrate and to ensure electrical isolation for the magnetic write head.

Re. claim 5: Chen discloses said first layer (96) of high magnetic permeability material is NiFe, CoNiFe, and has a thickness between about 0.5 and 2.0 microns. (see col. 6 lines 7-24)

Re. claim 6: Chen discloses said non-magnetic layer (98) is aluminum oxide. (see col. 8 lines 8-16)

Re. claim 7: Chen discloses said second layer (108) of high magnetic permeability material is NiFe, CoNiFe, and has a thickness between about 0.5 and 2.0 microns. (see col. 6 lines 7-24)

Re. claim 8: Chen discloses said upper magnetic pole (90) is NiFe, CoNiFe, and has a thickness between about 0.3 and 3 microns. (see col. 5 lines 50-58, col. 6 lines 6-12)

Re. claim 9: Chen discloses said width is about 0.1 microns. (see col. 8 lines 55-65)

Re. claim 10: Chen discloses said amount that said ledge extends away from said primary lower pole is between about 0.1 and 1 microns. (see claim 19)

Response to Arguments

3. Applicant's arguments, see pages 4-5, filed 08 January 2010, with respect to the rejection of claims 4-10 under 35 U.S.C. 112, second paragraph, have been fully considered and are persuasive. The rejection of claims 4-10 under 35 U.S.C. 112, second paragraph, has been withdrawn.

4. Applicant's arguments filed 08 January 2010 have been fully considered but they are not persuasive. Applicant stated "Examiner argues (by implication) that, by turning Chen's FIG. 7 upside down, a structure that is patently indistinguishable from our FIG. 4 (as described in our claim 4) will be obtained. We believe this to be incorrect and reproduce below the relevant text in our claim 4 with appropriate comments." The Examiner has reproduced Chen's Fig. 7 upside down, seen below, in order to better explain the rejection.

Applicant argues in comment 1 that "the substrate onto which layer 96 has been deposited is layer 102." However, as seen in the upside down Fig. 7 below, layer 96 is not deposited on 102, but rather an unnamed substrate around where reference numeral 70 is positioned.

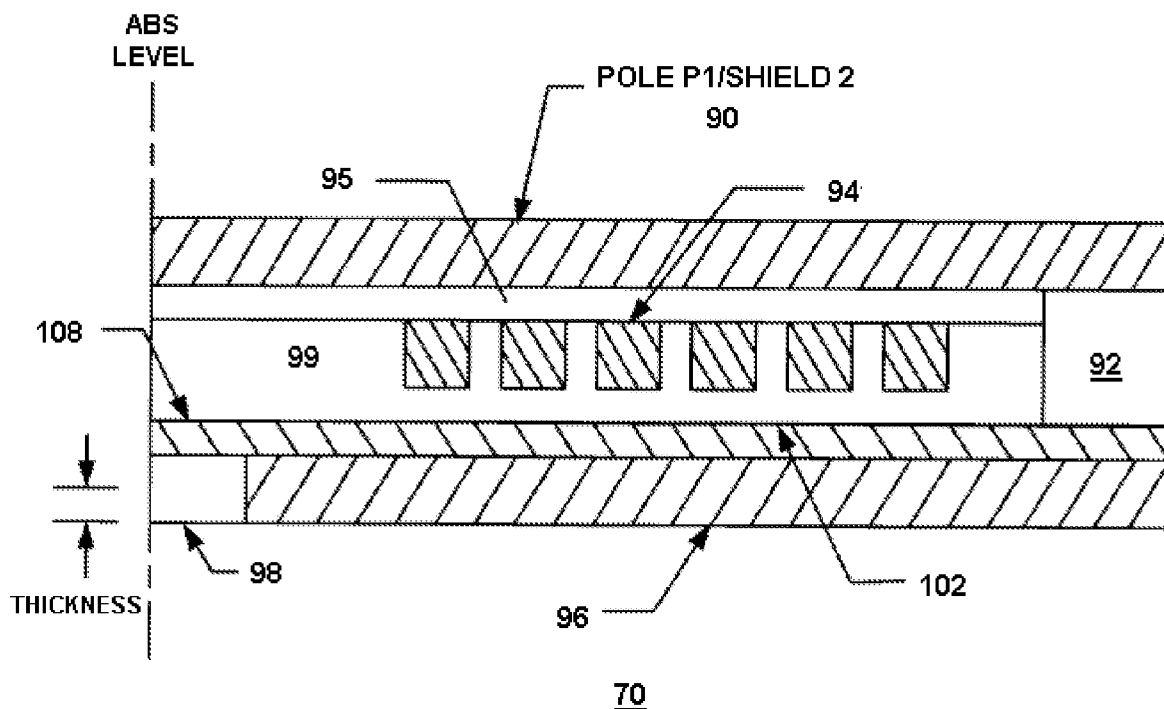
Applicant argues in comment 2 that "Chen provides no information concerning the magnetic properties of element 98." However, Chen clearly states in col. 8 lines 9-16, that the recess 98 is filled with an insulation material Al_2O_3 .

Applicant argues in comment 3 that "Chen's element 90 does NOT contact secondary lower pole 108, being separated therefrom by element 92." The Examiner

Art Unit: 2627

agrees and has better explained the rejection above by referring to the "upper pole" as Chen's elements 90 and 92 combined. The upper pole 90 and 92 combined now contacts said secondary lower pole at a second side that is opposite to said first side

Applicant argues in comment 4 that Chen's substrate is main pole 102. However, one of ordinary skill in the art would realize that the main pole is not 102, but rather that a substrate would be in the area of the reference numeral 70 in Chen's fig. 7. While Chen fails to show the substrate on which the magnetic element is built, it is well known in the art to produce magnetic elements on nonconductive substrates. Such substrates have been disclosed by Takano.



Examiner's Figure (modified Fig. 7 from Chen)

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM B. DRAVININKAS whose telephone number is (571)270-1353. The examiner can normally be reached on Monday - Thursday and Alt. Fridays 10:00a - 7:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

***/Brian E. Miller/
Primary Examiner, Art Unit 2627***

March 31, 2010
/A. B. D./
Examiner, Art Unit 2627